CLAIMS

1. A system for developing printing plate precursors comprising:

a developer unit adapted to apply developer to the printing plate precursors;

a replenisher unit adapted to controllably deliver replenisher to the developer unit; and

a regenerator unit adapted to controllably deliver regenerator to the developer unit.

2. The system of claim 1 wherein the developer unit comprises:

a developing area adapted to receive printing plate precursors and to apply developer to the precursors; and

a circulation unit adapted to receive developer from and deliver developer to the developing vessel.

3. The system of claim 2 wherein the circulation unit further comprises a developer vessel adapted to receive and house developer from the developing area.

4. The system of claim 3 wherein the developer vessel is adapted to receive replenisher controllably delivered from the replenisher unit.

5. The system of claim 3 wherein the developer vessel is adapted to receive regenerator controllably delivered from the regenerator unit.

6. The system of claim 2 wherein the circulation unit further comprises a developer filter disposed between the developing vessel and the storage vessel.

7. The system of claim 2 wherein the circulation unit further comprises at least one controllable conduit adapted to provide fluid communication between the developing area and the circulation unit.

8. The system of claim 1 wherein the developer unit comprises at least one sprayer adapted to apply developer onto printing plate precursors.

9. The system of claim 1 wherein the developer unit comprises at least one scrubber adapted to contact a surface of the printing plate precursor.

10. The system of claim 1 wherein the developer unit comprises at least a first roller for receiving printing plate precursors.

11. The system of claim 1 wherein the replenisher unit comprises a replenisher vessel adapted to house replenisher.

12. The system of claim 1 wherein the replenisher unit comprises at least one conduit to adapted to provide controllable liquid communication between the replenisher unit and the developer unit.

13. The system of claim 1 wherein the regenerator unit comprises a regenerator vessel adapted to house regenerator.

14. The system of claim 1 wherein the regenerator unit comprises at least one conduit adapted to provide controllable liquid communication between the regenerator system and the developer system.

15. The system of claim 1 further comprising at least one sensor for monitoring developer activity.

16. The system of claim 15 wherein the sensor is adapted to monitor the pH or the conductivity of the developer.

17. The system of claim 15 wherein the sensor is adapted to monitor the volume of the developer in the developer unit.

18. The system of claim 15 wherein the sensor is adapted to monitor the developed precursor area or number of precursors developed.

19. The system of claim 15 wherein the sensor is adapted to control delivery of the replenisher, regenerator or both to the developer unit.

20. The system of claim 19 wherein the sensor electronically communicates with the replenisher unit, the regenerator unit or both to provide controllable delivery of the replenisher, the regenerator or both.

21. The system of claim 15 comprising a plurality of sensors.

22. The system of claim 15 comprising

a first sensor adapted to monitor developed precursor area or number of precursors developed and to communicate with the replenisher vessel to deliver a volume of replenisher as a function of unit area of developed precursor; and

a second sensor adapted to monitor developer activity and to deliver regenerator as a function of change in developer activity.

23. A method for treating a volume of developer after developing a portion of at least one printing plate precursor comprising delivering to the developer an effective amount of a replenisher and a regenerator to maintain the activity of the developer.

24. The method of claim 23 comprising delivering an effective amount of regenerator and replenisher to maintain the pH or conductivity of the developer.

25. The method of claim 24 wherein the replenisher, regenerator or both is delivered as a function of pH or conductivity change in the volume of developer.

26. The method of claim 23 comprising delivering an effective amount of regenerator and replenisher to maintain a solvent or dispersing agent concentration of the developer.

27. The method of claim 25 comprising delivering a volume of replenisher, regenerator or both after a predetermined precursor area or number of precursors has been developed.

28. The method of claim 23 comprising delivering a volume of replenisher, regenerator or both as a function of developing speed.

29. The method of claim 23 comprising delivering an effective amount of replenisher and regenerator to maintain the volume of the developer.

30. A method for developing a plurality of imaged printing plate precursors, the method comprising:

providing a developer system comprising a developer unit, a replenisher unit adapted to deliver replenisher to the developer unit and a regenerator unit adapted to deliver regenerator to the developer unit;

applying developer to a portion of at least one printing plate precursor in the developer unit;

delivering an effective amount of replenisher and regenerator to the developer unit to maintain the activity of the developer; and

applying developer to a portion of at least one additional printing plate precursor in the developer unit.

31. The method of claim 30 comprising delivering a volume of replenisher, regenerator or both to the developer unit after a predetermined precursor area or number of plates has been developed.

32. The method of claim 30 comprising delivering a volume of regenerator, replenisher or both to the developer unit as a function of change in developer activity.

33. The method of claim 32 comprising controllably delivering regenerator as a function of change in the pH or conductivity of the developer.

34. The method of claim 30 wherein the imaged printing plate precursor comprises a laser imaged printing plate precursor.

35. The method of claim 30 wherein the imaged printing plate precursor comprises an infrared laser imaged printing plate precursor.